

## **IN THE CLAIMS**

This listing of the claim will replace all prior versions and listings of claim in the present application.

### **Listing of Claims**

1. (currently amended) A database processing method for performing processing by which contents of database processing carried out on a computer are forced to a database in a storage unit connected through a network to said computer, comprising the steps of:

receiving an access request received from said computer, and judging whether said received access request is a write request or a read request;

judging whether contents to be written are log information of a plurality of log records indicating contents of database processing carried out on said computer when said received access request is a write request; and

converting position information indicated in said log information<sub>1</sub> into ~~physical position information in said storage unit~~ with reference to a conversion table indicating correspondence of logical position information recognized in said database processing on said computer<sub>1</sub> to physical position information in said storage unit when said contents to be written are said log information; and<sub>1</sub>

~~modifying data of a database area in said storage unit expressed by said obtained physical position information in accordance with contents of said log information~~ wherein, when said received access request is a write request and said contents to be written are log information, said database processing method further comprises the steps of:

chaining said plurality of log records for each transaction to have a plurality of log record chains held in a log management table,

deleting, when a COMMIT log is found in log information of said log records, information of a transaction of a log record chain including said COMMIT log from said plurality of log record chains, and

updating data in a Logical Unit (LU) in said database area at physical position information in accordance with contents of said log information.

Claim 2 (canceled).

3. (original) A database processing method according to Claim 1, wherein:

when said received access request is a read request, it is judged whether log information for updating data to be read is included in past log information having been received in write requests till then or not; and

when said log information for updating said data to be read is included in said past log information, said data to be read is updated in accordance with contents of said included log information.

4. (original) A database processing method according to Claim 1, wherein update is performed using, of said log information, log information of a committed transaction.

5. (original) A database processing method according to Claim 1, wherein updating said data of said database area is performed in parallel for each physical disk corresponding to said data of said database area.

6. (currently amended) A database processing method according to Claim 1, wherein when said data of said database area to be updated in accordance with contents of said log information is present in another storage unit, said contents of said log information are transmitted to said storage unit, and said data of said database area is updated in said another storage unit.

7. (currently amended) A storage unit for performing processing by which contents of database processing carried out on a computer are forced to a database in said storage unit, comprising:

a control processing portion for receiving an access request transmitted from said computer, and judging whether said received access request is a write request or a read request; and

an update processing portion for judging whether contents to be written are log information of a plurality of log records indicating contents of database processing carried out on said computer when said received access request is a write request; and converting position information indicated in said log information<sub>1</sub> into physical position information in said storage unit with reference to a conversion table indicating correspondence of logical position information recognized in said database processing on said computer<sub>1</sub> to physical position information in said storage unit when said contents to be written are said log information; ~~and<sub>1</sub> updating data of a database area in said~~

~~storage unit expressed by said obtained physical position information in accordance with contents of said log information.~~

wherein, when said received access request is a write request and said contents to be written are log information, said update processing portion chains said plurality of log records for each transaction to have a plurality of log record chains held in a log management table, deletes, when a COMMIT log is found in log information of said log records, information of a transaction of a log record chain including said COMMIT log from said plurality of log record chains, and updates data in a Logical Unit (LU) in said database area at physical position information in accordance with contents of said log information.

8. (original) A storage unit according to Claim 7, wherein said update processing portion judges whether log information for updating data to be read is included in past log information having been received in write requests till then when said received access request is a read request; and when said log information for updating said data to be read is included in said past log information, said update processing portion updates said data to be read in accordance with contents of said included log information.

9. (currently amended) A database processing system for performing processing by which contents of database processing carried out on a computer are forced to a database in a storage unit, comprising:

a computer, including a database management processing portion, for transmitting a write request of log information from said computer to said a

storage unit when there occurs necessity to reflect contents of a database buffer of said computer onto a storage in said storage unit, said log information of a plurality of log records indicating contents of database processing carried out on said database buffer; and ~~for transmitting a read request of data to be accessed in said database processing from said computer to said storage unit when said data is absent from said database buffer;~~

a control processing portion of said storage unit for receiving an access request transmitted from said computer, and judging whether said received access request is a write request or a read request; and

an update processing portion of said storage unit for judging whether contents to be written are said log information indicating contents of database processing carried out on said computer when said received access request is a write request;<sub>1</sub> converting position information indicated in said log information<sub>1</sub> into physical position information in said storage unit with reference to a conversion table indicating correspondence of logical position information recognized in said database processing on said computer<sub>1</sub> to physical position information in said storage unit when said contents to be written are said log information; and<sub>1</sub> ~~updating data of a database area in said storage unit expressed by said obtained physical position information in accordance with contents of said log information.~~

wherein, when said received access request is a write request and said contents to be written are log information, said update processing portion chains said plurality of log records for each transaction to have a plurality of log record chains held in a log management table, deletes, when a COMMIT

log is found in log information of said log records, information of a transaction of a log record chain including said COMMIT log from said plurality of log record chains, and updates data in a Logical Unit (LU) in said database area at physical position information in accordance with contents of said log information.

10. (original) A database processing system according to Claim 9, wherein:

when said received access request is a read request, it is judged whether log information for updating data to be read is included in past log information having been received in write requests till then or not; and

when said log information for updating said data to be read is included in said past log information, said data to be read is updated in accordance with contents of said included log information.

11. (original) A database processing system according to Claim 9, wherein update is performed using, of said log information, log information of a committed transaction.

12. (original) A database processing system according to Claim 9, wherein updating said data of said database area is performed in parallel for each physical device corresponding to said data of said database area.

13. (currently amended) A database processing system according to Claim 9, wherein when said data of said database area to be updated in

accordance with contents of said log information is present in another storage unit, said contents of said log information are transmitted to said another storage unit, and said data of said database area is updated in said another storage unit.

14. (currently amended) A database processing program having computer readable codes, stored on a storage medium, for making a computer function as a storage unit for performing processing when read into a computer by which contents of database processing carried out on a said computer are forced to a database in a storage unit connected through a network to said computer, wherein said database processing program makes said computer function as:

a control processing portion for receiving an access request transmitted from said computer, and judging whether said received access request is a write request or a read request; and

an update processing portion for judging whether contents to be written are log information of a plurality of log records indicating said contents of said database processing carried out on said computer when said received access request is a write request; and converting position information indicated in said log information<sub>1</sub> ~~into physical position information in said storage unit with reference to a conversion table indicating correspondence of logical position information recognized in said database processing on said computer<sub>1</sub> to physical position information in said storage unit when said contents to be written are said log information; and<sub>1</sub> updating data of a database area in said~~

~~storage unit expressed by said obtained physical position information in accordance with contents of said log information.~~

wherein, when said received access request is a write request and said contents to be written are log information, said update processing portion further chains said plurality of log records for each transaction to have a plurality of log record chains held in a log management table, deletes, when a COMMIT log is found in log information of said log records, information of a transaction of a log record chain including said COMMIT log from said plurality of log record chains, and updates data in a Logical Unit (LU) in said database area at physical position information in accordance with contents of said log information.

15. (original) A database processing program according to Claim 14, wherein:

when said received access request is a read request, it is judged whether log information for updating data to be read is included in past log information having been received in write requests till then or not; and

when said log information for updating said data to be read is included in said past log information, said data to be read is updated in accordance with contents of said included log information.

16. (original) A database processing program according to Claim 14, wherein update is performed using, of said log information, log information of a committed transaction.



17. (original) A database processing program according to Claim 14, wherein updating said data of said database area is performed in parallel for each physical device corresponding to said data of said database area.

18. (original) A database processing program according to Claim 14, wherein when said data of said database area to be updated in accordance with contents of said log information is present in another storage unit, said contents of said log information are transmitted to said storage unit, and said data of said database area is updated in said storage unit.